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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,361	03/10/2005	Gerard Eduard Rosmalen	NL 020848	4859
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EXAMINER KOVALICK, VINCENT E				
ART UNIT 2629		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/527,361

Applicant(s)

ROSMALLEN, GERARD EDUARD

Examiner

VINCE E. KOVALICK

Art Unit

2629

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-6, 12 and 15 is/are rejected.
- 7) ☒ Claim(s) 3, 7-11, 13-14 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date 3/10/05, 11/16/05 & 1/23/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to Applicant's Patent Application, Serial No. 10/527,361, with a File Date of 3/10/05.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim, (Pub. No 2001/0015716) taken with Igari (USP 6,121,952).

Relative to claims 1 and 12, Kim **teaches** a Liquid Crystal Display and a method for driving the same (pg. 2, para. 0031-0035); Kim further **teaches** an active matrix display device having a plurality of pixels, wherein the pixels are grouped into pixel groups (R', G', B'), and circuitry is present to drive each pixel group (pg. 3, para. 0052).

Kim **does not teach** a specific duty cycle, wherein at least two pixel groups (R', G', B') are assigned different duty cycles.

Igari **teaches** gray scale display control device (col. 2, lines 45-67 and col. 3, lines 1-39); Igari further **teaches** a specific duty cycle, wherein at least two pixel groups (R', G', B') are assigned different duty cycles (col. 1, lines 46-57).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Kim the feature as taught by Igari in order to provide the means to select specific pixel groups or block driven by specific duty cycles.

Regarding claim 4, Kim further **teaches** the said active matrix display device wherein the pixels are grouped into pixel groups (R', G', B') according to the color they can emit during operation (pg. 3, para. 0052).

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim taken with Igari as applied to claim 1 in item 3 hereinabove, and further in view of Howard (Pub. No. 2003/0052614)

Regarding claim 2, Kim taken with Igari **does not teach** an active matrix display device wherein the display device is an organic electroluminescent display device.

Howard **teaches** a video display device particular to Active Matrix Organic Light Emitting Diode display devices (pg. 1, paras. 0004-0006); Howard further **teaches** an active matrix display device wherein the display device is an organic electroluminescent display device.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Kim taken with Igari the feature as taught by Howard in order to provide a pixel driver circuit for driving a OLED pixel in a active matrix OLED display wherein the driver circuit includes a switch having an input, an output, and a control input which is coupled to row select line for the display to facilitate pixel group selection.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim taken with Igari as applied to claim 1 in item 3 hereinabove, and further in view of Hattori et al. (Pub. No. 2001/0020925).

Regarding claim 5, Kim taken with Igari **does not teach** an active matrix display device wherein the specific duty cycle assigned to each pixel group depends on the temperature of the pixels in the corresponding pixel group (R', G', B').

Hattori et al. **teaches** temperature sensor disposed close to the display pixels (pg.2, paras. 0017-0027).

Hattori et al. further **teaches teach** an active matrix display device wherein the specific duty cycle assigned to each pixel group depends on the temperature of the pixels in the corresponding pixel group (R', G', B').

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Kim taken with Igari the feature as taught by Hattori et al in order to put in place pixel temperature sensors to facilitate alternating the pixel group duty cycle to compensate for the impact

of temperature changes on the said sensor group.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim taken with Igari as applied to claim 1 in item 3 hereinabove, and further in view of Sanford et al. (USP 6,667,791)

Relative to claim 6, Kim taken with Igari **does not teach** an active matrix display device wherein the said active matrix display device wherein the specific duty cycle assigned to each pixel group (R', G', B') depends on the history of operation of the corresponding pixel group.

Sanford et al. **teaches** driving a matrix display device (col. 3, lines 16-67 and col. 4, lines 1-7); Sanford et al. further **teaches** matrix display device wherein the specific duty cycle assigned to each pixel group (R', G', B') depends on the history of operation of the corresponding pixel group (col. 2, lines 50-57).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to provide to the device as taught by Kim taken with Igari the feature as taught by Sanford et al. in order to adjust the duty cycle to compensate for the impact of history on the pixels that make-up the particular pixel group.

7. Regarding claim 15, Kim taken with Igari **does not teach** a method wherein the assignment of a duty cycle to each pixel group is a static assignment, whereby the duty cycle is the same for the entire lifetime of the display device; wherein the method step, of setting static duty cycles in many electronic products, said duty cycles remaining through the useful life time of the said products, being in common practice.

Because this methodology is in common practice and well known in the art, it would have been obvious to a person of ordinary skill in the art at the time of the invention, to apply this common practice in the methodology as taught by claim 15 of the instant invention.

Allowable Subject Matter

8. Claims 7-11 and 13-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Relative to claim 7, the major difference between the teachings of the prior art of record (Pub. No. 2001/0015716, Kim and USP 6,121,952, Igari) and that of the instant invention is that said prior art **does not teach** an active matrix display device wherein the pixels are operative to emit a first, a second and a third color, and are grouped into a first, a second, and a third pixel group (R', G', B') accordingly.

Relative to claim 10, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art **does not teach** an active matrix display device arranged to address a pixel group (R', G', B') more than one time in each picture frame.

Regarding claim 11, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art **does not teach** an active matrix display device arranged to address a pixel group (R', G', B') in separate addressing rows.

Relative to claim 13, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art **does not teach** an active matrix display device wherein the specific duty cycles are adjusted so as to reduce the degradation of the pixel/pixels in the corresponding pixel group (R', G', B').

Regarding claim 14, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art **does not teach** an active matrix display device wherein the grouping of pixels into pixel groups (R', G', B') is such that pixels having operatively similar dominant degradation mechanisms are grouped into a same pixel group (R', G', B').

Regarding claim 16, the major difference between the teachings of the said prior art of record and that of the instant invention is that said prior art **does not teach** the method wherein the assignment of a duty cycle to each pixel group is a dynamic assignment, whereby the duty cycle changes during the lifetime of the display device (10).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U. S. Patent No.	6,522,256	Watanabe
U.S. Patent No.	6,144,162	Smith
U. S. Patent No.	5,936,596	Yoshida et al.
U. S. Patent No.	5,02,777	Ninnis et al.
Pub. No.	US 2002/0093495	Akimoto et al.

To Respond

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINCE E. KOVALICK whose telephone number is (571)272-7669. The examiner can normally be reached on Monday-Thursday 7:30- 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bipin Shalwala/

Supervisory Patent Examiner, Art Unit 2629